AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all previous listings and versions of claim in this application:

1. (Currently amended) A method for producing ~~an adhesive~~ a dry, hydrophilic surface on a substrate for improving subsequent bonding to another substrate, the method comprising, within a closed container:

treating a substrate surface that includes an oxide layer by a wet chemical etching process that comprises immersing the substrate into a bath that includes an etchant to remove the oxide layer and provide an etched hydrophobic surface; and

directly followed by exposing the etched hydrophobic surface to a gaseous ozone atmosphere ~~within a closed container~~ to provide a dry hydrophilic ~~adhesive~~ surface on the substrate to enhance subsequent bonding to the other substrate.

2. (Original) The method according to claim 1 wherein the wet chemical etching includes an aqueous hydrofluoric acid solution (HF) as an etchant.

3. (Previously Presented) The method according to claim 1 wherein the wet chemical etching includes an etchant that includes hydrofluoric acid (HF), ammonium fluoride (NH_4F) and water.

4. (Original) The method according to claim 1 wherein the duration of wet chemical etching is in the range of about 5 seconds to about 30 minutes.

5. (Original) The method according to claim 1 wherein the temperature of wet chemical etching is in the range of between about room temperature to about 80°C.

Claims 6-10. (Cancelled)

11. (Previously Presented) The method according to claim 1 wherein the substrate is a silicon wafer.

12. (Previously Presented) The method according to claim 1 wherein the substrate is a metal.

13. (Previously presented) The method according to claim 11 which further comprises bonding the etched surface of one substrate to an etched surface of another substrate, by laying one wafer on the other and applying pressure to one of the substrates to form a bonded pair of substrates.

14. (Previously presented) The method according to claim 13 which further comprises annealing the bonded substrates to increase bonding strength to between 0.28 and 0.38 MPa when measured at room temperature.

15. (Previously presented) The method according to claim 14, wherein the annealing temperature is about 500°C.

16. (Currently amended) A method for ~~producing an adhesive surface on a substrate for subsequent~~ bonding ~~to another~~ substrates, comprising treating a substrate surface that includes an oxide layer by a wet chemical etching process that comprises:

placing the substrate in a closed container;

immersing the substrate within the closed container into a bath that includes hydrofluoric acid as an etchant to remove the oxide layer and provide an etched hydrophobic surface~~,~~; and

directly ~~followed by~~ following the immersion, exposing the etched hydrophobic surface to a gaseous ozone atmosphere within a the closed container to provide a uniform dry hydrophilic ~~adhesive~~ surface on the substrate ~~to~~ that enhances subsequent bonding to the other substrate; and

then bonding the ~~adhesive~~ dry hydrophilic surface of the substrate to a surface of another substrate by laying one substrate on the other and applying pressure to at least one of the substrates to form a bonded pair of substrates, ~~wherein~~ such that the ~~adhesive~~ dry hydrophilic surface of the substrate enhances the bonding ~~to~~ of the ~~other~~ substrates.

17. (Previously presented) The method according to claim 16 wherein the wet chemical etching comprises a solution of the hydrofluoric acid with ammonium fluoride and water.

18. (Previously presented) The method according to claim 17 wherein the duration of wet chemical etching is in the range of about 5 seconds to about 30 minutes.

19. (Previously presented) The method according to claim 18 wherein the temperature of wet chemical etching is in the range of between about room temperature to about 80°C.

20. (Previously presented) The method according to claim 16 which further comprises treating the surface of the other substrate by the same wet chemical etching process prior to bonding the etched surfaces together.

21. (Previously presented) The method according to claim 16 which further comprises annealing the bonded substrates to increase bonding strength.

22. (Previously presented) The method according to claim 21 wherein the annealing temperature is about 500°C.

23. (Previously presented) The method according to claim 16 wherein the substrate is a silicon wafer.

24. (Previously presented) The method according to claim 16 wherein the substrate is a metal.

25. (Currently amended) A method for providing an ~~adhesive~~ dry hydrophilic surface on a substrate surface that includes an oxide layer to prepare that surface for subsequent bonding to another substrate, the method consisting of immersing the substrate, within a closed container, into a bath that includes hydrofluoric acid as an etchant to remove the oxide layer and provide an etched hydrophobic surface, followed by exposing the etched hydrophobic surface to a gaseous ozone atmosphere within ~~a~~ the closed container to provide a dry hydrophilic ~~adhesive~~ surface on the substrate, wherein the ~~adhesive~~ dry hydrophilic surface of the substrate enhances bonding to the other substrate.

26. (New) The method of claim 2, further comprising providing the closed container, which container contains the hydrofluoric acid solution bath and the gaseous ozone

atmosphere, wherein the substrate is exposed to the gaseous ozone atmosphere to uniformly saturate the substrate surface with oxygen.

27. (New) The method of claim 26, wherein the substrate is silicon and is exposed to the gaseous ozone atmosphere to uniformly saturate the substrate surface with silanol sites, the method further comprising bonding the substrate surface to another surface of the other substrate, which other surface is uniformly saturated with silanol sites.

28. (New) The method of producing an enhanced bonding of substrates, providing first and second substrates with dry hydrophilic surfaces to enhance subsequent bonding to the each other by the method of claim 2, further comprising bonding the dry hydrophilic surfaces of the first and second substrates to each other, which surfaces enhance the bonding therebetween.